IT Service Delivery
Staffing Allocation by IT Function

This table summarizes the differences between the current and recommended model:

	Current Town IT Dept.	Recommended Central IT Dept.	Difference	Current Departmental & School IT Staff	Recommended Departmental Applications Support	Difference	Current Brookline IT Staff	Recommended Brookline IT Staff	Difference
Customer Services	1.64	3.22	1.58	4.54	4.56	0.02	6.18	7.78	1.60
Help Desk (Tier 1)	0.50	1.05	0.55	0.97	0.60	-0.37	1.47	1.65	0.18
Desktop PC support (Tier 2)	0.39	1.15	0.76	1.60	1.95	0.35	1.99	3.10	1.11
Business application support	0.56	0.50	-0.06	0.77	0.81	0.04	1.33	1.31	-0.02
Training	0.19	0.52	0.33	1.20	1.20	0.00	1.39	1.72	0.33
System Services	2.14	3.40	1.26	5.29	3.13	-2.16	7.43	6.53	-0.90
Network connectivity (WAN/LAN)	0.24	1.10	0.86	0.85	0.19	-0.66	1.09	1.29	0.20
Server administration	0.30	0.80	0.50	1.13	0.54	-0.59	1.43	1.34	-0.09
Data center operations	0.81	0.80	-0.01	0.59	0.14	-0.45	1.40	0.94	-0.46
Database administration	0.56	0.20	-0.36	1.62	1.60	-0.02	2.18	1.80	-0.38
Security administration	0.10	0.20	0.10	0.73	0.43	-0.30	0.83	0.63	-0.20
Telephone systems support	0.13	0.20	0.07	0.21	0.09	-0.12	0.34	0.29	-0.05
Mobile computing support	-	0.10	0.10	0.16	0.14	-0.02	0.16	0.24	0.08
Business Application Services	3.41	4.23	0.82	3.28	3.07	-0.21	6.69	7.30	0.61
Application development	1.96	1.96	0.00	0.42	0.39	-0.03	2.38	2.35	-0.03
Small application support	0.30	0.28	-0.02	0.74	0.74	0.00	1.04	1.02	-0.02
Internet/intranet support	0.79	1.10	0.31	0.51	0.24	-0.27	1.30	1.34	0.04
Requirements analysis	0.11	0.40	0.29	0.49	0.35	-0.14	0.60	0.75	0.15
Custom application maintenance:	0.11	0.13	0.02	0.63	0.68	0.05	0.74	0.81	0.07
Package application maintenance:	0.14	0.36	0.22	0.49	0.67	0.18	0.63	1.03	0.40
IT Planning	0.32	1.38	1.06	0.61	0.38	-0.23	0.93	1.76	0.83
Strategic planning	0.10	0.49	0.39	0.24	0.17	-0.07	0.34	0.66	0.32
Research and development	0.11	0.38	0.27	0.19	0.15	-0.04	0.30	0.53	0.23
Disaster recovery/planning	0.07	0.16	0.09	0.10	0.03	-0.07	0.17	0.19	0.02
Governance coordination	0.04	0.35	0.31	0.08	0.03	-0.05	0.12	0.38	0.26
IT Administration	1.89	3.17	1.28	1.69	1.27	-0.42	3.58	4.44	0.86
Asset management	0.06	0.10	0.04	0.27	0.23	-0.04	0.33	0.33	0.00
IT procurement	0.17	0.13	-0.04	0.45	0.32	-0.13	0.62	0.45	-0.17
Project management	0.57	0.62	0.05	0.33	0.25	-0.08	0.90	0.87	-0.03
Standards and policies development	0.13	0.60	0.47	0.10	0.03	-0.07	0.23	0.63	0.40
Administrative support	0.81	0.68	-0.13	0.32	0.26	-0.06	1.13	0.94	-0.19
Departmental management	0.15	1.04	0.89	0.22	0.18	-0.04	0.37	1.22	0.85
FTE Sum	**9.40**	**15.40**	**6.00**	**15.41**	**12.41**	**-3.00**	**24.81**	**27.81**	**3.00**

Overall Customer Service effort increases by 1.60 FTE, largely the result of establishing a Brookline help desk

Training support & coordination increases by 0.33 FTE

Centralization decreases overall System Services effort by 0.90 FTE

Much of the decrease is in "back office" functions such as these

Applications Services increase of 0.61 FTE is spread over several functions

Reflects shift to packaged solutions

Increase of 0.83 FTE reflects greater emphasis on long-range view of IT at Brookline

Increase of 0.86 FTE results from focus on active management of IT

Formalizing IT management requires standards & policies effort

IT Service Delivery
Staffing Allocation by IT Function

This table summarizes the allocation of staff to IT functions in the recommended model:

This level of Tier 1 & 2 support improves the staff to PC ratio from current 275:1 to 150:1

	CIO	Applications Division	Operations Division	Customer Service Division	Central IT Dept. Total	Public Safety	School Admin. Applications	Town Department Applications	Instructional Technology	Total Departmental Applications
Customer Services		0.82		2.40	3.22	0.50	1.42	0.56	2.08	4.56
Help Desk (Tier 1)	-	-	-	1.05	**1.05**	0.08	0.05	0.12	0.35	**0.60**
Desktop PC support (Tier 2)	-	-	-	1.15	**1.15**	0.08	0.45	0.17	1.25	**1.95**
Business application support	-	0.50	-	-	**0.50**	0.28	0.17	0.16	0.20	**0.81**
Training	-	0.32	-	0.20	**0.52**	0.06	0.75	0.11	0.28	**1.20**
System Services		0.20	3.20		3.40	0.61	1.45	0.32	0.75	3.13
Network connectivity (WAN/LAN)	-	-	1.10	-	**1.10**	0.04	-	-	0.15	**0.19**
Server administration	-	-	0.80	-	**0.80**	0.09	-	0.15	0.30	**0.54**
Data center operations	-	-	0.80	-	**0.80**	0.14	-	-	-	**0.14**
Database administration	-	0.20	-	-	**0.20**	0.08	1.45	0.07	-	**1.60**
Security administration	-	-	0.20	-	**0.20**	0.03	-	0.10	0.30	**0.43**
Telephone systems support	-	-	0.20	-	**0.20**	0.09	-	-	-	**0.09**
Mobile computing support	-	-	0.10	-	**0.10**	0.14	-	-	-	**0.14**
Business Application Services		4.23			4.23	0.40	1.57	0.47	0.63	3.07
Application development	-	1.96	-	-	**1.96**	0.07	0.20	0.12	-	**0.39**
Small application support	-	0.28	-	-	**0.28**	0.07	0.44	0.09	0.14	**0.74**
Internet/intranet support	-	1.10	-	-	**1.10**	0.03	-	0.11	0.10	**0.24**
Requirements analysis	-	0.40	-	-	**0.40**	0.06	0.29	-	-	**0.35**
Custom application maintenance:	-	0.13	-	-	**0.13**	0.13	0.40	0.06	0.09	**0.68**
Package application maintenance:	-	0.36	-	-	**0.36**	0.04	0.24	0.09	0.30	**0.67**
IT Planning	0.50	0.38	0.25	0.25	1.38	0.10	0.09	0.16	0.03	0.38
Strategic planning	0.30	0.09	0.05	0.05	**0.49**	0.04	0.05	0.06	0.02	**0.17**
Research and development	-	0.18	0.10	0.10	**0.38**	0.03	0.02	0.10	-	**0.15**
Disaster recovery/planning	-	0.06	0.05	0.05	**0.16**	0.03	-	-	-	**0.03**
Governance coordination	0.20	0.05	0.05	0.05	**0.35**	-	0.02	-	0.01	**0.03**
IT Administration	0.50	0.77	0.55	1.35	3.17	0.39	0.07	0.30	0.51	1.27
Asset management	-	-	-	0.10	**0.10**	0.04	0.01	0.08	0.10	**0.23**
IT procurement	-	0.01	-	0.12	**0.13**	0.04	0.02	0.11	0.15	**0.32**
Project management	-	0.32	0.20	0.10	**0.62**	0.15	0.03	0.05	0.02	**0.25**
Standards and policies development	0.10	0.20	0.15	0.15	**0.60**	0.02	-	-	0.01	**0.03**
Administrative support	-	-	-	0.68	**0.68**	0.09	0.01	0.06	0.10	**0.26**
Departmental management	0.40	0.24	0.20	0.20	**1.04**	0.05	-	-	0.13	**0.18**
FTE Sum	**1.00**	**6.40**	**4.00**	**4.00**	**15.40**	**2.00**	**4.60**	**1.81**	**4.00**	**12.41**

Schools continue support of the Macintosh desktop

Reflects database administration required by Pentamation

School and departments retain significant levels of application support

CIO leads IT strategic planning

IT managers lead R&D, innovation

IT Service Delivery

Service Delivery Guidelines

These additional service delivery recommendations address other issues identified in the assessment:

- **Establish a Brookline help desk to support these services:**
  - Priority setting
  - Problem escalation
  - Response-time commitments
  - Trouble ticket handling
  - Customer communication
- **Re-asses user needs for GIS technology and evaluate system configuration for optimal performance**
- **Formally develop and document IT policies and procedures (e.g., operations, security, etc.)**
- **Develop an approach to coordinate and deliver training to educate users on:**
  - Personal productivity tools (e.g., Office, Email, etc.) delivered primarily by outside trainers
  - Business applications (e.g., GIS, MUNIS, Permits Plus, IQ, etc.) delivered primarily by departmental application experts
- **Provide IT support to accommodate Town and School operating schedules**

IT Service Delivery

Service Delivery Guidelines

Brookline's IT service delivery model will continue to evolve as technology increasingly supports Town and School activities. Among the factors that will influence these changes:

- **Formalization of non-titled IT staff role in IT service delivery:**
  - Overall non-titled IT staffing levels will remain about the same:
    - Levels seen in Comptroller's office mostly due to recent MUNIS implementation
    - These should decline over the next year
    - This decline will likely be offset by increases associated with application enhancements in other departments
  - These staff will remain the primary source of internal application training, department-specific application requirements, etc.
  - Duties such as server and network administration should be shifted to the central IT department
- **Consolidation of servers and equipment to a data center:**
  - Economies of scale will be best realized by centrally locating as many servers as practical
  - Requires stable, high-speed connections between sites
  - High school, Sperber Education Center, or Municipal Services Center are the best current locations
  - Long-term plans for remodel of Town Hall could include a data center there

IT Service Delivery
Service Delivery Guidelines

Additional factors that will influence changes to the IT service delivery model:

- **Choice of an enterprise database:**
  - Applications are closely tied to specific databases in current architecture
  - Correspondingly, database administration remains as either a central or departmental application support responsibility
  - Migration to an enterprise database platform (e.g. SQL Server) would allow separation of these responsibilities, with centralization of database administration and require hiring a database administrator
- **Decisions on central versus departmental application support:**
  - If more than one department is a significant user of an application, support should be centralized. *For instance, the recommended implementation of Maintenance Management would shift the DPW IT support position to the central IT department*
  - Where a clear delineation between departmental application and enterprise data exists, responsibilities may be split accordingly. *For instance, the Assessor's office supports the Real Estate and Personal Property application and centrally maintains the data. The Town has access to the data on a read-only basis. The Assessor's office should maintain the application and data, and the central IT department should be responsible for shared database support*
  - For departments that have a need to locate systems away from the data center (Police, Library) some systems services will remain departmental along with application support

IT Service Delivery

Service Delivery Guidelines

The IT service delivery model will also be affected by the following School-specific factors:

- **Choice of PC versus Macintosh:**
  - School administration has committed to migrating from Macintosh to PC — these will be supported by the central IT department
  - Macintosh desktop support will remain with the School so long as this is the platform of choice in the classroom
  - Any significant migration from Macintosh to PC in the classroom will increase required PC support in the central IT department — and potentially shift support staff from the School to the central IT department
- **Support requirements in the classroom:**
  - Teacher dissatisfaction with instructional technology is more reflective of support levels and incomplete network build-out than with instructional tools themselves
  - As instructional tools become more fully integrated into the curriculum, desktop support demands will increase
- **Wider use of administrative applications:**
  - Teacher access to Pentamation system will require increased training
  - Making data available on Internet will increase support requirements in this area

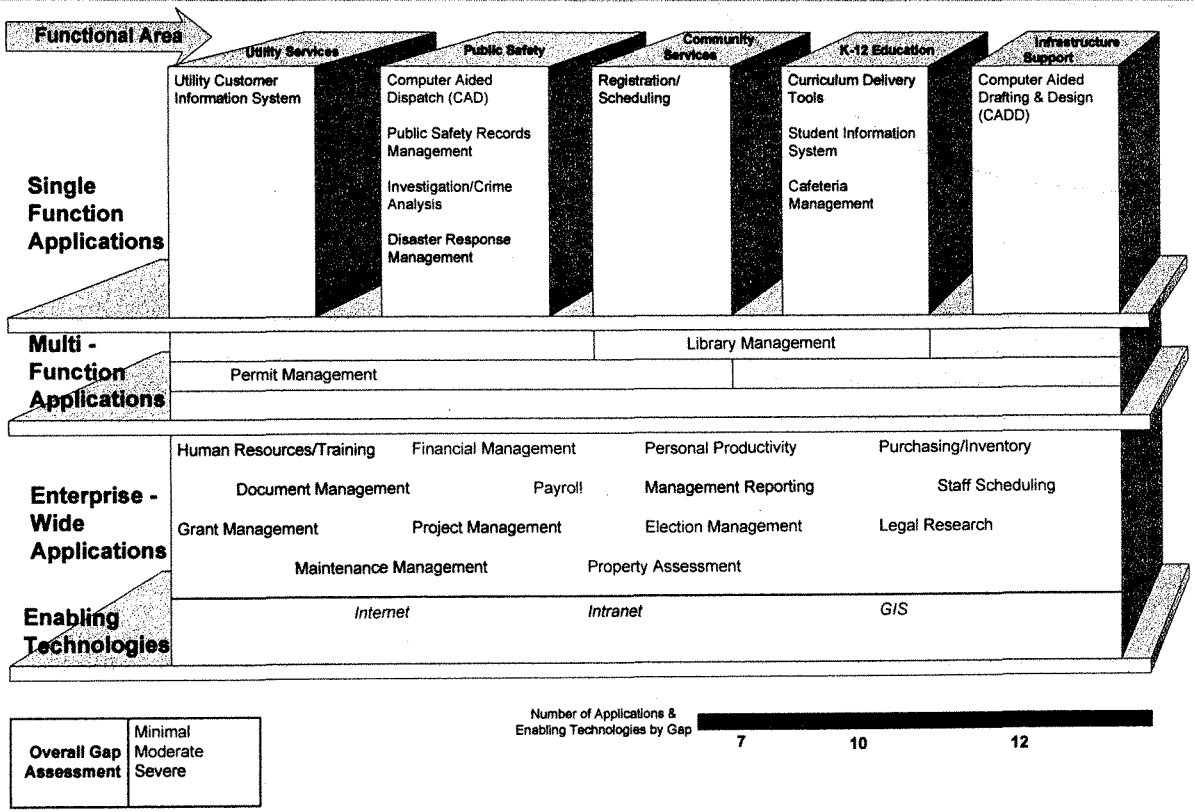
Recommended Application Strategy:
Ideal Application Architecture

This section presents an ideal application architecture for Brookline, along with an analysis of "gaps" between existing and ideal business applications.

- **The ideal application architecture graphically depicts how Brookline's defined business functions might be automated in a "perfect world" (i.e., the slate is clean, the checkbook open)**
- **PTI employs this architecture to help identify high priority application needs**
- **The architecture uses the business function model, presented in Appendix E, as a foundation**
- **Ideal applications are grouped by major functional areas, and further characterized as one of the following:**
  - Single-function — supporting only one business area
  - Multi-function — support more than one, but not all, business areas
  - Enterprise-wide — supporting business functions across the Brookline
  - Enabling technology – key components of the technical architecture that, while not *directly* automating business functions, are needed to enhance functionality of other Brookline applications
- **The priorities established by the steering committee presented on page 3-22 and 3-23, informed by subsequent costs analysis guided application projects recommended in Chapter 4 — Implementation Planning**
- **Appendix G contains detailed descriptions of the ideal applications and associated gaps**

Recommended Application Strategy:
Ideal Application Architecture

The chart below presents the ideal application architecture — color coding indicates the severity of the gap or disparity between the ideal and the actual applications in use at Brookline



Recommended Application Strategy:
Prioritization Results

The table below presents the ideal applications as prioritized by the steering committee through a voting process. This prioritization took into account PTI's gap analysis along with participants' understanding of Brookline's overall priorities.

Rank	Application	Gap	Vote
1	Intranet	Severe	50
2	Human Resources/Training	Severe	49
3	Internet	Moderate	48
4	Student Information System	Moderate	33
4	Curriculum Delivery Tools	Severe	33
6	Maintenance Management	Severe	29
7	Financial Management	Moderate	25
8	Management Reporting	Severe	24
9	Payroll	Moderate	23
10	Document Management	Severe	15
11	Geographic Information System (GIS)	Minimal	14
12	Staff Scheduling	Moderate	11
13	Personal Productivity	Moderate	8
14	Registration/Scheduling	Severe	7
15	Permit Management	Moderate	6
15	Grant Management	Severe	6
17	Disaster Response Management	Severe	4
18	Computer Aided Dispatch (CAD)	Minimal	3
18	Project Management	Severe	3
20	Library Management	Moderate	2
20	Cafeteria Management	Minimal	2
20	Purchasing/Inventory	Moderate	2
23	Utility Customer Information System	Severe	1
23	Computer Aided Drafting & Design (CADD)	Moderate	1
25	Investigation/Crime Analysis	Minimal	0
25	Legal Research	Moderate	0
25	Election Management	Minimal	0
25	Public Safety Records Management	Minimal	0
25	Property Assessment	Minimal	0

Recommended Application Strategy:
Prioritization Results

Based on their ranking a separate vote was taken for two enabling technologies: Internet and intranet applications. The results of the steering committee ranking for these enabling technologies are presented in the table below.

Rank	Internet applications	Vote
1	eCommerce	26
2	School (homework, student schedules)	20
3	On-line registration (Classes, facilities, recreation, etc.)	17
4	Mapping services	12
5	Public information	6
5	Town schedule (meetings & activities)	6
7	Job application acceptance and tracking	5
	Intranet applications	
1	IT help desk (problem submission & tracking)	42
2	Computer Based Training (CBT)	28
3	Annual benefit enrollment	12
4	Staff & facility sceduling	10
5	Contact database (e.g. Town meeting members)	5
5	Time sheet submission & reporting	5
7	CIP process	3
7	Budget preparation	3

Recommended Application Strategy

As determined by the high priority established for them, PTI recommends IT investments in these core functions not currently automated:

- **Maintenance Management**

  This application automates management of enterprise fixed assets including fleet, facilities, infrastructure, and parks through their life cycle. It manages regulatory compliance, certification, and maintenance information for these assets. It generates work orders and preventive maintenance schedules and assigns personnel, equipment, and inventory to work. Provides the ability to track and analyze time, materials, and costs for all maintenance activities. By implementing this application Brookline will see improved utilization of service personnel, reduce the life cycle cost of equipment maintenance, and create efficient scheduling by identifying dependant work across departments.

- **Management Reporting**

  This application provides management with a single source for critical data. It reports on key management performance measures on a regular schedule from a variety of applications. This will allow Brookline to efficiently generate management reports, thus reducing the need for time-consuming custom report development. In addition, it improves operational decision making with frequent monitoring of key performance measure.

Recommended Application Strategy

Additionally, we recommend extending the implementation of existing applications to achieve additional functionality:

- **Human Resource Management/Training**

  Implement the capabilities of the existing Harper's and/or MUNIS systems to provide online processing and maintenance of employee records. Automation of this function would reduce the amount of time spent by staff to provide accurate benefit information and reduce redundant information stored by different departments.

- **MUNIS**

  The Finance Department and IT must work closely to ensure the MUNIS application is correctly and consistently used by all departments. This need is supported by ongoing training for staff and is part of the service delivery recommendations.

- **Permits Plus**

  Implement Permits Plus in the Fire department, Town Clerk's office, Public Works, and Planning. Acquire additional training for staff in order to implement the workflow features which will improve efficiencies intra and inter departmentally.

- **Pentamation**

  Continue enhancements and modifications to meet the needs of the K-8 school teachers and principals. Once the enhancements are complete, implement in the schools utilizing the web browser version.

- **Document management**

  Upgrade and/or replace the existing document management system, deploying it to the Finance Department, Town Clerk's office, Selectmen's Office and Building department. This addresses current capacity issues and reduces paper storage and handling across multiple departments.

Recommended Application Strategy

PTI recommends that the following services utilize the Internet and intranet to enhance delivery of application services to staff and the community:

- **Internet**

  Brookline should continue building on existing Internet services to provide new opportunities for e-Government. Priorities for extending these services would include giving students and parents access to homework and student schedules, providing online registration for Brookline classes, facilities, and parks and playgrounds, and offering services based on the GIS system to provide maps and geographic information.

- **intranet**

  Brookline's intranet uses Web technology to help staff perform their jobs more efficiently from any location. Priorities for internet enablement include submission and tracking of help desk problems, provision of computer based training courses, access to HR information, updates to annual benefit enrollment, and integrated staff and facility scheduling.

These services will require existing applications to be Internet- or intranet-enabled. As new applications are acquired, Internet and/or intranet support should be a major requirement.

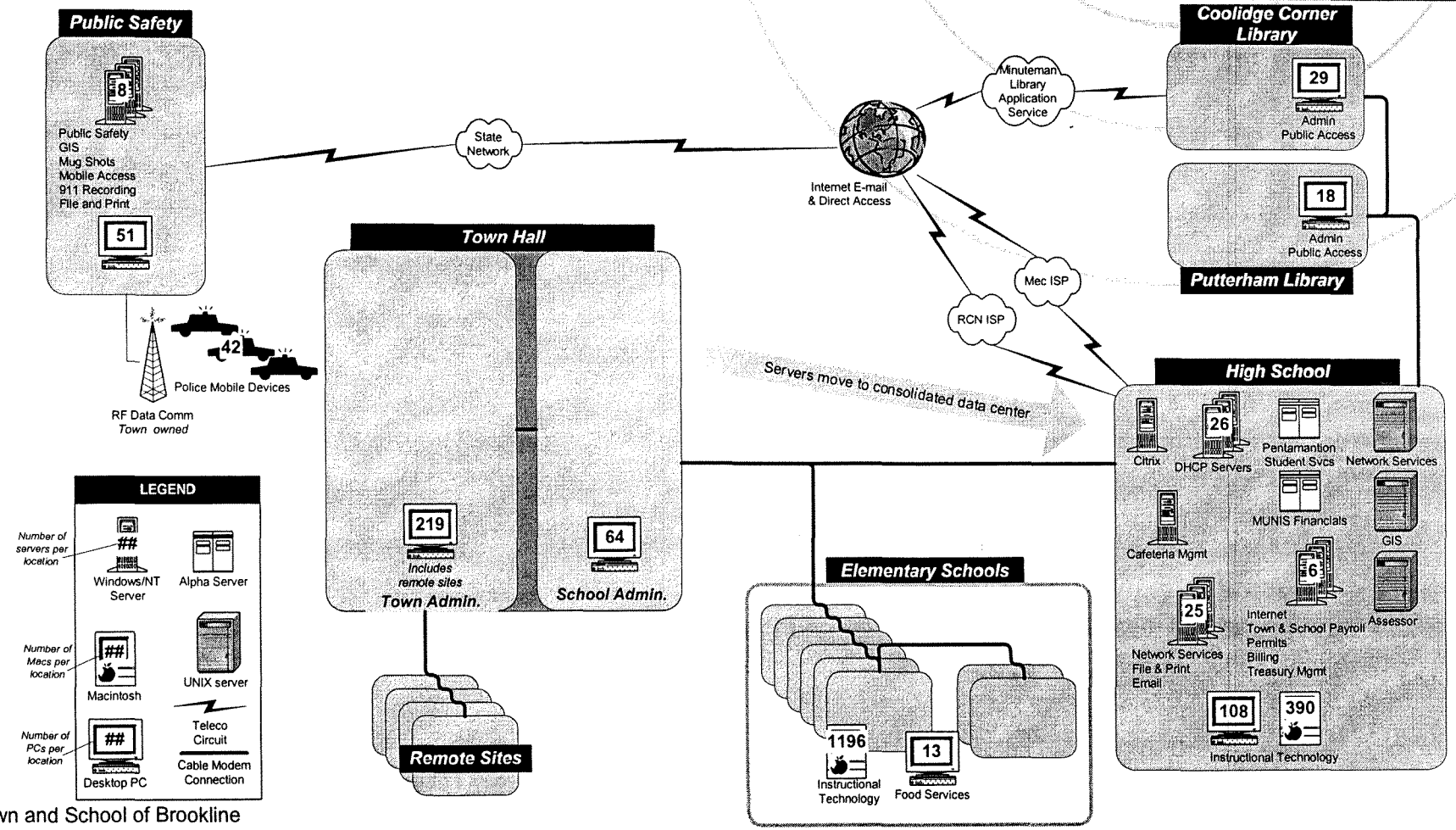
Recommended Technical Infrastructure

The following presents major recommendations related to Brookline's technical infrastructure:

- **Consolidate servers to a data center:**
  - Key to achieving economies of scale in systems support
  - High School, Sperber Education Center, or Municipal Service Center are the best current location options, the remodel of Town Hall may consider locating the data center there
- **Manage Brookline's technical infrastructure as a single, shared resource:**
  - Maintains consistent equipment and software levels
  - Reduces barriers to information sharing between departments
- **Upgrade the WAN/LAN at Schools:**
  - Stable, high-speed WAN connections are critical to an effective data center
  - Completing the LAN build out at remaining schools will remove a key barrier to deployment on instructional technology in the classroom
  - Remodel of Town Hall is an opportunity to upgrade its LAN infrastructure
- **Establish enterprise database standard:**
  - Given the mission-critical nature of MUNIS and Pentamation, Brookline will need some Informix skills on staff for the next several years
  - SQL Server is a more common standard for municipalities of Brookline's size
  - Brookline may need to support a dual-database standard for some time, migrating packages to SQL Server where possible

The diagram on the following page presents a high-level depiction of Brookline's future technical architecture.

Recommended Technical Infrastructure



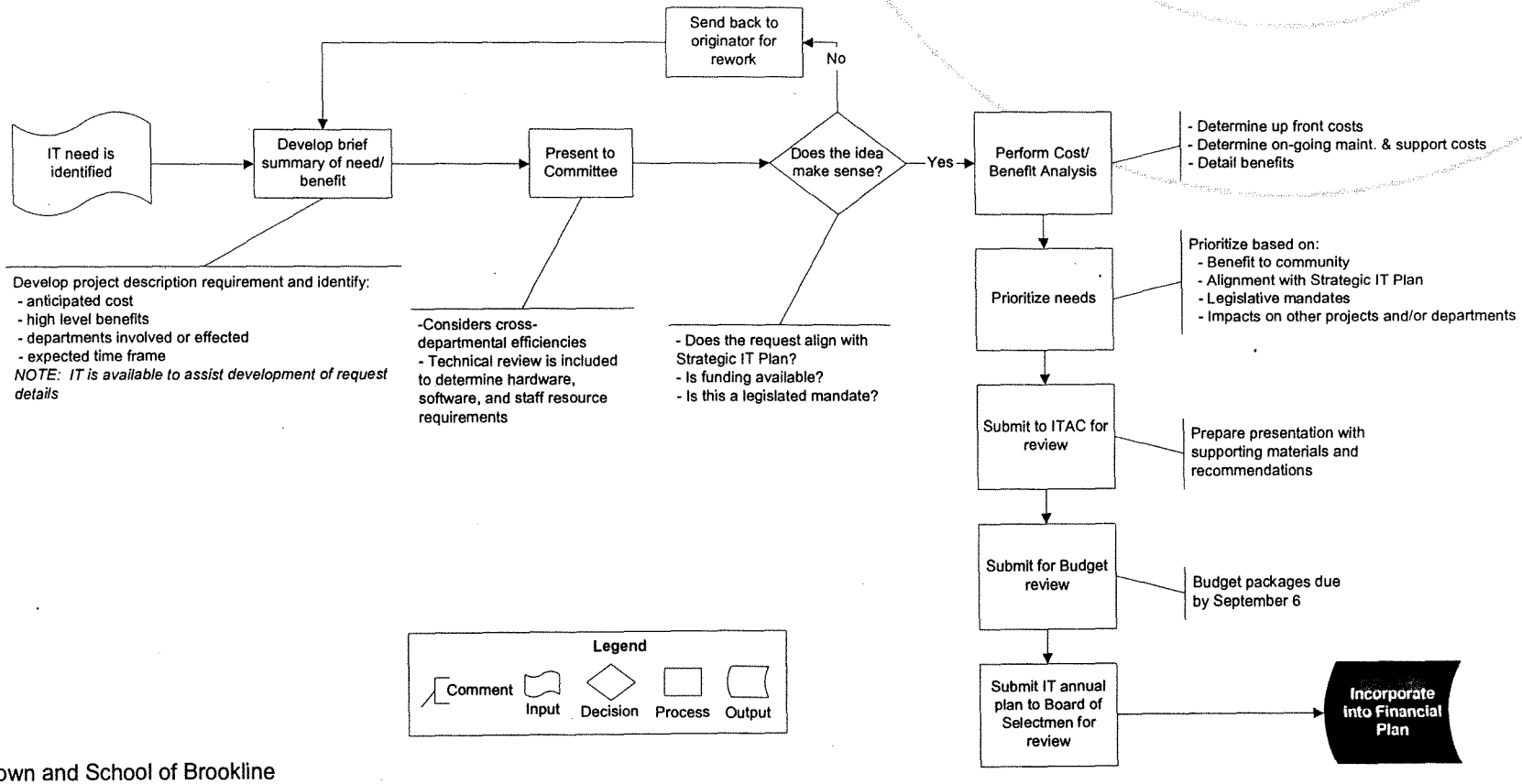
Recommended IT Decision-Making Approach

PTI recommends establishing an annual IT decision process, similar to the existing CIP process, for prioritizing IT initiatives at Brookline and incorporating them into the budget, specifically:

- Implement the recommended decision-making process presented on the following pages
- Define key roles and responsibilities as recommended on the following pages
- Coordinate IT planning based on future application needs, utilizing a well defined evaluation criteria
- Conduct post implementation project reviews to assess and address "lessons learned"
- Re-evaluate GIS user needs to identify areas for use of new GIS technologies
- Develop a strategic plan for Instructional Technology

Recommended IT Decision-Making Process

The diagram below presents the recommended decision-making model. PTI developed the recommended model and associated roles and responsibilities in a facilitated workshop with the Steering Committee.



Recommended IT Decision-Making Process

The roles and responsibilities of current participants in the budget approval process remain largely the same. The new process requires these new participants, with the duties as shown:

CIO

- Ensures post implementation project reviews are conducted
- Defines and coordinates standards, directions, and policies
- Leads decision process for annual IT plan update
- Source of innovative ideas
- Chairperson for the Town & School IT Committee
- Public advocate for IT
- Provides conflict resolution for IT decisions
- Facilitates ITAC review and oversight meetings

Town & School IT Committee

- Meets monthly to review issues
- Reviews and prioritize IT projects
- Identifies cross-departmental synergies
- Responsible for two-way communications between departments

ITAC

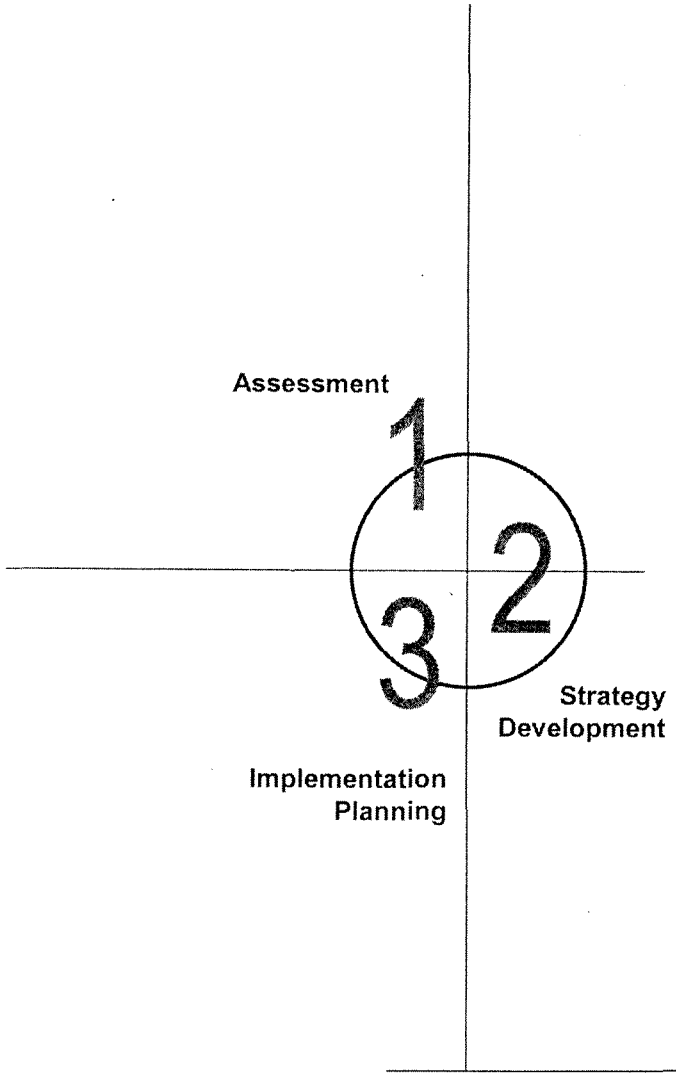
- Provides external, objective input to IT decisions
- Provides oversight of IT strategic plan, including annual updates
- Reviews the annual IT investment plan
- Reviews "lessons learned" from major IT initiatives

Recommended IT Decision-Making Approach

Brookline can expect these key benefits as a result of implementing the recommended decision making process and establish the supporting roles and responsibilities:

- Enterprise-wide IT decisions, with departmental input
- Improved integration between applications for current and future systems
- Better coordination of the planning and review effort
- Ongoing innovation to enhance and support current technology initiatives

CHAPTER 4



implementation plan

Town and School of Brookline
Information Technology Strategic Plan
January 23, 2002

PTI
Pacific Technologies, Inc.

Overview

Based on the strategic direction, PTI recommended changes in software applications, IT service delivery, and technical architecture.

This chapter outlines the project, costs, and schedule necessary to implement these recommendations. It presents:

- Project Summaries
- Incremental Project Costs
- Annual Project Costs
- Project Workplan/Schedule
- Critical Success Factors
- Plan Benefits

Implementation Projects

The following pages present a summary description of recommended projects divided into three categories.

- **Management – Projects that create the necessary organizational structures and establish IT direction, policies, and procedures**
- **Application – Software projects that address specific management, decision support, and operational business needs**
- **Technology Infrastructure – Projects oriented toward putting in place the hardware, systems software, database, and network components to support the plan's application architecture**

Refer to Appendix B for detailed project descriptions.

Project Summaries

Management Projects

M1 - Implement organizational recommendations
Create a central IT department, headed by a CIO at the senior department head level. Includes developing a Memorandum of Understanding, recruiting a CIO, and hiring additional IT staff.

M2 - Implement IT decision-making process
Detail the procedures needed to support the recommended IT prioritization process, including formalization of ITAC and development of Town/School Departmental IT Committee charter.

M3 - Perform GIS needs re-assessment and system evaluation
Re-evaluate and optimize GIS system configuration based on changes to GIS technology. Additionally, evaluate user needs to assure that GIS applications support the areas of greatest benefit to Brookline.

M4 - Develop and implement IT policies and procedures
Establish IT policies and procedures which include technology standards, appropriate use of technology, and method for communicating with IT. This project will formalize IT policies, create a uniform technical environment, and improve communications across departments.

M5 - Develop delivery and coordination framework for IT training
Create a framework to deliver IT training to Brookline staff, improving productivity and enhancing effectiveness of business applications.

Project Summaries

Management Projects

M6 - Establish an IT help desk
Implement a help desk with related software to log and track problem requests. This project will improve service to internal customers, establish a method to prioritize problems, and analyze problems to address recurring issues. The scope of help desk support services should be reviewed on an annual basis with the IT strategic plan.

M7 - Develop a plan for integrating Instructional Technology into curriculum
Review current Instructional Technology program to identify opportunities for improvements and develop a plan to include guidelines for efficient delivery along with a timeline and budget for implementation. This project will establish a strategic direction for Instructional Technology to improve student learning, and enhance teachers' ability to deliver quality instruction.

M8 - Establish and fund life-cycle replacement for IT assets
Set aside funds in the operating budget to pay for replacement of all IT applications and infrastructure (e.g. servers, routers, etc.) to maintain efficient, up-to-date systems and hardware. Cost estimates assume a range of four year life-cycle's for PC's out to ten years for applications. *The recurring costs for this project are highly dependent on the the outcome of the Instructional Technology plan (project M7), which will identify required acquisitions for applications and technical infrastructure.*

M9 - Conduct annual review of IT strategic plan
Meet on an annual basis to review and update plan based on changes in technology and priorities in Brookline. This review will maintain the focus on IT strategy based on enterprise-wide needs.

Project Summaries

Application Projects

A1 - Implement human resource system
Implement the capabilities of the existing Harper's system to track employee information. As a follow-on, use Web technology to provide access for employees to maintain basic information and allow on-line annual benefits enrollment, improving Human Resource department efficiency and increasing employee satisfaction.

A2 - Implement a maintenance management system
Acquire and implement software to automate management of Brookline's facilities, infrastructure, vehicles, etc. throughout their lifecycle. Includes work order capability. This project improves the ability to perform preventive maintenance, producing longer asset life and reducing repair costs.

A3 - Establish a management reporting platform and develop key reports
Develop standard, user-friendly reports and establish key performance metrics across all departments to improve management information and decision making.

A4 - Extend MUNIS functionality to all departments
Implement training and process improvements needed to better utilize the capabilities of MUNIS at the departmental level.

A5 - Complete implementation of Permits Plus
Implement workflow functionality intra- and inter-departmentally to streamline the permitting and licensing processes and provide improved response to customers.

Project Summaries

Application Projects

A6 - Deploy Pentamation to teachers and community
Extend Pentamation to teachers in the classroom and provide Internet access for assignments and schedules to parents and students. This project will improve communication between students, teachers, and parents, and improve efficiency by eliminating manual tracking of student information.

A7 - Implement Internet priorities
Build on existing Internet services to provide new opportunities for e-Government including access to student assignments and schedules, on-line registration for facilities, classes, and parks and open spaces, and mapping services based on the GIS system to enhance services to the community.

A8 - Implement intranet priorities
Utilize intranet technology to improve employee access to information in support of their job functions. Priorities for intranet enablement include submission and tracking of help desk problems, access to HR information and annual benefits enrollment, integrated scheduling for staff and facilities, and delivery of computer based training courses.

A9 - Upgrade classroom applications
As determined by the Instructional Technology strategic plan (project M7), deploy appropriate learning/teaching tools at all grade levels.

A10 - Upgrade document management system
Upgrade and/or replace the system to scan and index documents. This project will replace the current hardware and software with a higher capacity, up-to-date system that can be utilized cross departmentally.

Project Summaries

Technology Projects

T1 - Establish a data center
Consolidate Brookline IT infrastructure and servers to the high school, Sperber Education Center, or Municipal Service Center initially. Consider a later relocation to Town Hall in conjunction with the remodeling project. This project will achieve economies of scale in systems support and provide a single source to manage Brookline's infrastructure.

T2 - Upgrade WAN/LAN in schools
A stable high-speed WAN is critical to effective application deployment, and upgrading the LAN's in the schools will allow deployment of Pentamation and instructional technology to the classroom.

T3 - Implement an enterprise database
Incorporate the requirement for new systems to support an enterprise database, migrate existing applications to the standard to ensure efficient access to data across Brookline, and hire a database administrator to manage the databases.

T4 - Migrate school administrative staff to PC platform
Migration of all administrative staff to the PC platform will enable access to PC-based applications, reduce the complexity of the technical environment, and allow staff to seamlessly share files without the need for conversion across platforms.

T5 - Upgrade classroom computing platform
As determined by the Instructional Technology strategic plan (project M7), deploys the recommended number of PC or Macintosh computers in the classroom.

Total Project Costs

The table below presents one-time and recurring cost estimates in *thousands* for each recommended project.

NOTES

- **Recurring costs were developed from high-end estimates**
- **Costs do not include internal labor, except for projects M1 - CIO and new staff, and T3 - database administrator position**
- **Backfill costs are not included — we estimate the resource requirements to be:**
  - A1 - Human resource system (1 FTE)
  - A2 - Maintenance management system (2 FTE)
  - T2 - School WAN/LAN (.5 FTE)
  - T5 - Classroom computing platform (.5 FTE)
- **Analysis of "hard dollar" benefits is outside the scope of this planning effort**

		One-time Costs Low-end	One-time Costs High-end	Recurring Costs
Management Projects				
M1	Implement organizational recommendations	0	15	315
M2	Implement IT decision-making process	0	20	N/A
M3	GIS needs re-assessment and system evaluation	15	40	N/A
M4	Develop and implement IT policies and procedures	0	30	N/A
M5	Develop delivery and coordination framework for IT training	0	45	N/A
M6	Establish IT help desk	17	32	5
M7	Develop a plan for integrating Instructional Technology into curriculum	0	150	N/A
M8	Establish and fund life-cycle replacement for IT assets	0	15	1413
M9	Conduct annual review and update of IT Strategic Plan	0	0	N/A
Application Projects				
A1	Implement human resource system	0	85	10
A2	Implement a maintenance management system	142	270	18
A3	Establish a management reporting platform and develop key reports	16	76	3
A4	Extend MUNIS functionality to all departments	19	49	N/A
A5	Complete implementation of Permits Plus	0	60	6
A6	Deploy Pentamation to teachers and community	26	56	N/A
A7	Implement Internet priorities	0	270	43
A8	Implement intranet priorities	0	75	N/A
A9	Upgrade classroom applications	366	706	136
A10	Replace/upgrade document management system	544	790	32
Technology Projects				
T1	Establish a data center	50	175	N/A
T2	Upgrade WAN/LAN in schools	1,350	1,350	24
T3	Implement an enterprise database	230	660	106
T4	Migrate school administrative staff to PC platform	30	37	N/A
T5	Upgrade classroom computing platform	0	0	986
	Total	**$2,805**	**$5,006**	**$3,097**

Incremental Project Costs

The table below presents cost estimates *minus currently planned funding* for each recommended project.

NOTES

- **Recurring costs were developed from high-end estimates**
- **Costs do not include internal labor, except for projects M1 - CIO and new staff, and T3 - database administrator position**
- **Backfill costs are not included — we estimate the resource requirements to be:**
  - A1 - Human resource system (1 FTE)
  - A2 - Maintenance management system (2 FTE)
  - T2 - School WAN/LAN (.5 FTE)
  - T5 - Classroom computing platform (.5 FTE)
- **Analysis of "hard dollar" benefits is outside the scope of this planning effort**
- **Costs for projects M1, M8, A4, A7, A8, and T2 do not include funds already planned for these projects**

	Management Projects	One-time Costs Low-end	One-time Costs High-end	Recurring Costs
M1	Implement organizational recommendations	0	15	193
M2	Implement IT decision-making process	0	20	N/A
M3	GIS needs re-assessment and system evaluation	15	40	N/A
M4	Develop and implement IT policies and procedures	0	30	N/A
M5	Develop delivery and coordination framework for IT training	0	45	N/A
M6	Establish IT help desk	17	32	5
M7	Develop a plan for integrating Instructional Technology into curriculum	0	150	N/A
M8	Establish and fund life-cycle replacement for IT assets	0	15	796
M9	Conduct annual review and update of IT Strategic Plan	0	0	N/A
	Application Projects			
A1	Implement human resource system	0	85	10
A2	Implement a maintenance management system	142	270	18
A3	Establish a management reporting platform and develop key reports	16	76	3
A4	Extend MUNIS functionality to all departments	0	30	N/A
A5	Complete implementation of Permits Plus	0	60	6
A6	Deploy Pentamation to teachers and community	26	56	N/A
A7	Implement Internet priorities	0	105	43
A8	Implement intranet priorities	0	60	N/A
A9	Upgrade classroom applications	366	706	136
A10	Replace/upgrade document management system	544	790	32
	Technology Projects			
T1	Establish a data center	50	175	N/A
T2	Upgrade WAN/LAN in schools	600	600	24
T3	Implement an enterprise database	230	660	106
T4	Migrate school administrative staff to PC platform	30	37	N/A
T5	Upgrade classroom computing platform	0	0	986
	Total	**$2,036**	**$4,057**	**$2,357**

Total Annual Project Costs

This table presents the one-time and recurring cost estimates on an annual basis:

NOTES

- **Dollar amounts are based on the high-end costs**
- **Costs are in 2002 dollars, and are not indexed for inflation**
- **Annual costs for project M8 were validated by Brookline**

Management Projects		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Total
M1	Implement organizational recommendations	273	283	293	304	315	1,469
M2	Implement IT decision-making process	20					20
M3	GIS needs re-assessment and system evaluation	40					40
M4	Develop and implement IT policies and procedures	30					30
M5	Develop delivery and coordinaton framework for IT training	45					45
M6	Establish IT help desk	32	5	5	5	5	52
M7	Develop a plan for integrating Instructional Technology into curriculum		150				150
M8	Estalish and fund life-cycle replacement for IT assets	179	1,293	1,377	1,400	1,413	5,662
M9	Conduct annual review and update of IT Strategic Plan						
Application Projects							
A1	Implement human resource system			85	10	10	104
A2	Implement a maintenance management system		270	18	18	18	324
A3	Establish a management reporting platorm and develop key reports		76	3	3	3	86
A4	Extend MUNIS functionality to all departments		49				49
A5	Complete implementation of Permits Plus		60	6	6	6	78
A6	Deploy Pentamation to teachers and community		56				56
A7	Implement Internet priorities	270	43	43	43	43	443
A8	Implement intranet priorities		75				75
A9	Upgrade classroom applications		706	136	136	136	1,114
A10	Replace/upgrade document management system			790	32	32	854
Technology Projects							
T1	Establish a data center		175				175
T2	Upgrade WAN/LAN in schools	150	1,200	24	24	24	1,422
T3	Implement an enterprise database				660	106	766
T4	Migrate school administrative staff to PC platform	37					37
T5	Upgrade classroom computing platform			986	986	986	2,958
	Total	**$1,076**	**$4,441**	**$3,767**	**$3,627**	**$3,097**	**$16,008**

Incremental Annual Project Costs

This table presents the annual cost estimates *minus currently planned funding:*

NOTES

- **Dollar amounts are based on the high-end costs**
- **Costs are in 2002 dollars, and are not indexed for inflation**
- **Annual costs for project M8 were validated by Brookline**
- **Costs for projects M1, M8, A4, A7, A8, and T2 do not include funds already planned for these projects**

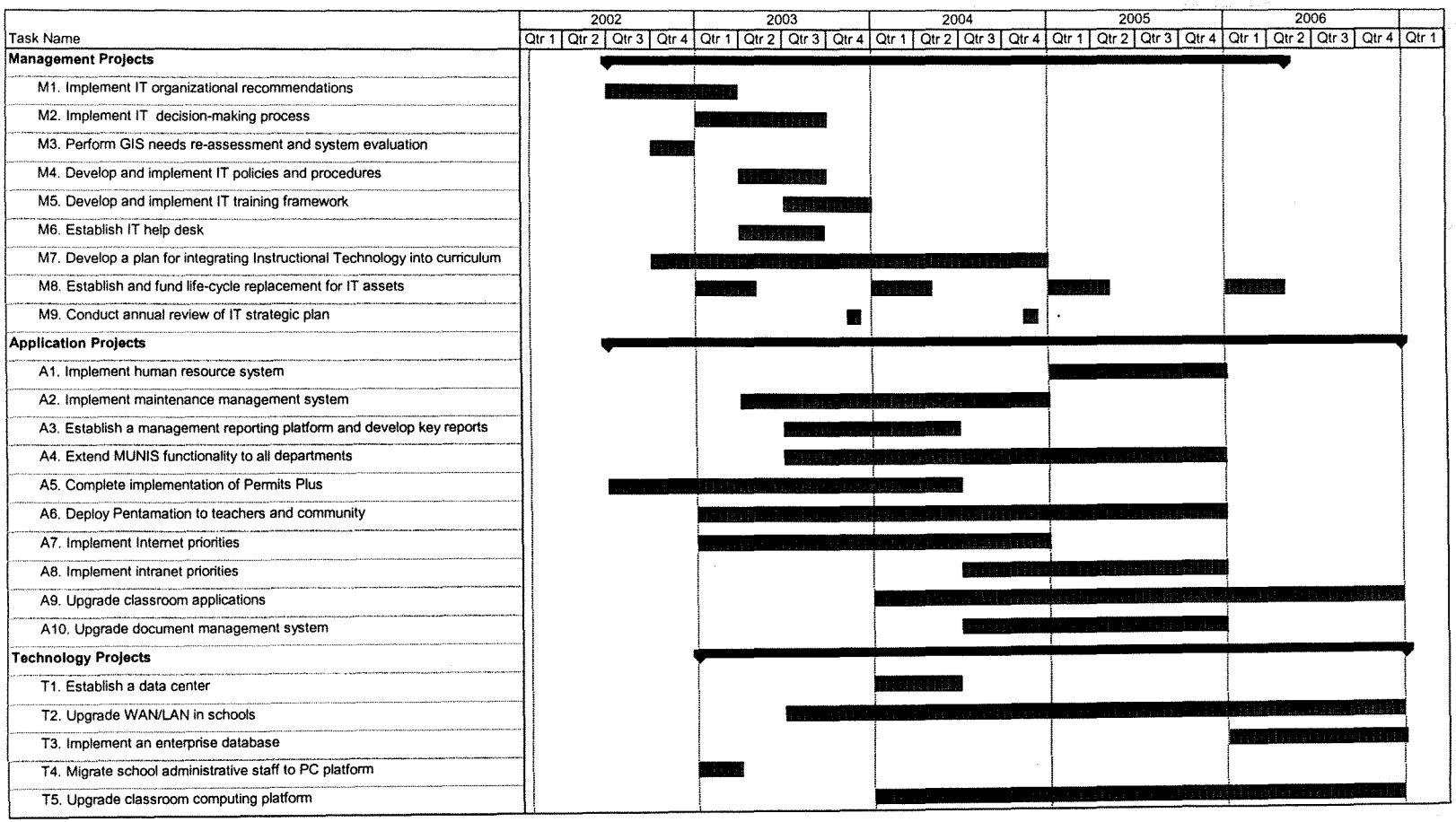
Management Projects		FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Total
M1	Implement organizational recommendations	160	168	176	184	193	880
M2	Implement IT decision-making process	20					20
M3	GIS needs re-assessment and system evaluation	40					40
M4	Develop and implement IT policies and procedures	30					30
M5	Develop delivery and coordinaton framework for IT training	45					45
M6	Establish IT help desk	32	5	5	5	5	52
M7	Develop a plan for integrating Instructional Technology into curriculum		150				150
M8	Estalish and fund life-cycle replacement for IT assets	16	746	763	780	796	3,100
M9	Conduct annual review and update of IT Strategic Plan						
Application Projects							
A1	Implement human resource system			85	10	10	104
A2	Implement a maintenance management system		270	18	18	18	324
A3	Establish a management reporting platorm and develop key reports		76	3	3	3	86
A4	Extend MUNIS functionality to all departments		30				30
A5	Complete implementation of Permits Plus		60	6	6	6	78
A6	Deploy Pentamation to teachers and community		56				56
A7	Implement Internet priorities	105	10	10	10	10	146
A8	Implement intranet priorities		60				60
A9	Upgrade classroom applications		706	136	136	136	1,114
A10	Replace/upgrade document management system			790	32	32	854
Technology Projects							
T1	Establish a data center		175				175
T2	Upgrade WAN/LAN in schools		600	24	24	24	672
T3	Implement an enterprise database				660	106	766
T4	Migrate school administrative staff to PC platform	37					37
T5	Upgrade classroom computing platform			986	986	986	2,958
	Total	**$484**	**$3,112**	**$3,002**	**$2,854**	**$2,324**	**$11,776**

Annual Project Cost Summary

The final cost table summarizes total, planned, and incremental project costs for FY2003 and for the five-year planning horizon:

		FY 2003			FY 2003-2007		
Management Projects		**GROSS**	**PLANNED**	**NET**	**GROSS**	**PLANNED**	**NET**
M1	Implement organizational recommendations	273	113	160	1,469	589	880
M2	Implement IT decision-making process	20	0	20	20	0	20
M3	GIS needs re-assessment and system evaluation	40	0	40	40	0	40
M4	Develop and implement IT policies and procedures	30	0	30	30	0	30
M5	Develop delivery and coordinaton framework for IT training	45	0	45	45	0	45
M6	Establish IT help desk	32	0	32	52	0	52
M7	Develop a plan for integrating Instructional Technology into curriculum	0	0	0	150	0	150
M8	Estalish and fund life-cycle replacement for IT assets	179	164	16	5,662	2,561	3,100
M9	Conduct annual review and update of IT Strategic Plan	0	0	0	0	0	0
Application Projects							
A1	Implement human resource system	0	0	0	104	0	104
A2	Implement a maintenance management system	0	0	0	324	0	324
A3	Establish a management reporting platorm and develop key reports	0	0	0	86	0	86
A4	Extend MUNIS functionality to all departments	0	0	0	49	19	30
A5	Complete implementation of Permits Plus	0	0	0	78	0	78
A6	Deploy Pentamation to teachers and community	0	0	0	56	0	56
A7	Implement Internet priorities	270	165	105	443	297	146
A8	Implement intranet priorities	0	0	0	75	15	60
A9	Upgrade classroom applications	0	0	0	1,114	0	1,114
A10	Replace/upgrade document management system	0	0	0	854	0	854
Technology Projects							
T1	Establish a data center	0	0	0	175	0	175
T2	Upgrade WAN/LAN in schools	150	150	0	1,422	750	672
T3	Implement an enterprise database	0	0	0	766	0	766
T4	Migrate school administrative staff to PC platform	37	0	37	37	0	37
T5	Upgrade classroom computing platform	0	0	0	2,958	0	2,958
	Total	**$1,076**	**$592**	**$484**	**$16,008**	**$4,231**	**$11,776**

Project Workplan / Schedule



Critical Success Factors

This list presents the factors that are crucial to assure successful implementation of these projects at Brookline.

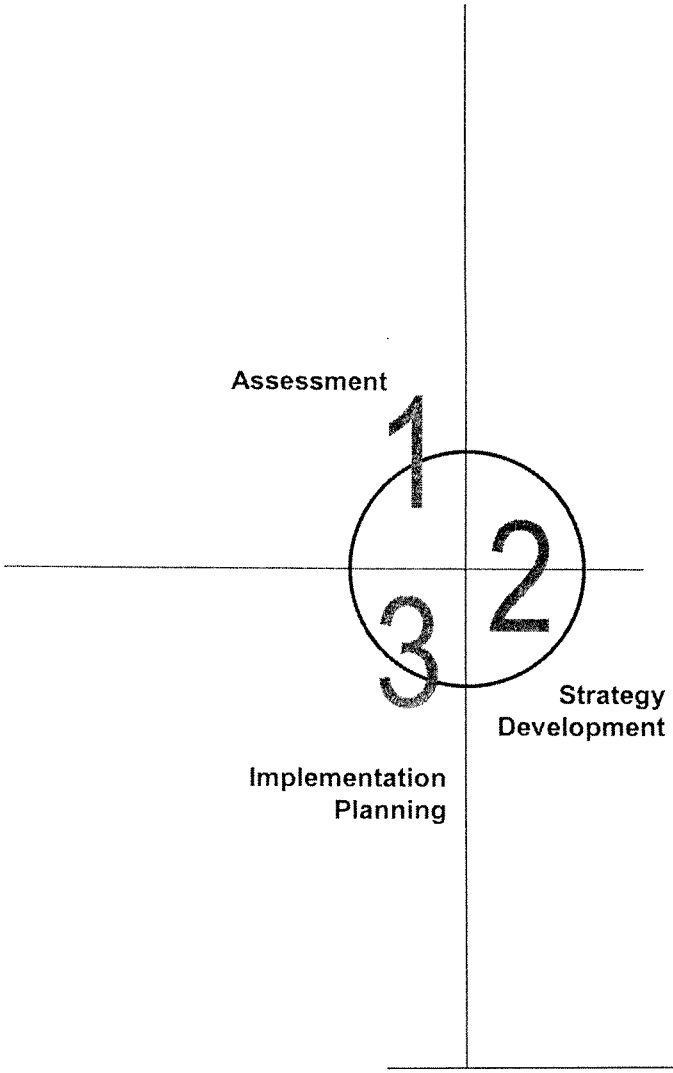
- Sufficient resources are available and committed to carry out the plan
- Projects have senior management buy-in and an identified project owner
- Staff have the required skill set to transition to the new application architecture
- Community is involved in IT strategy, projects, and investments
- Resources are provided, when deemed necessary, to backfill for departmental staff assigned to projects
- Commitment to ongoing governance and accountability

Plan Benefits

The following is a synopsis of the Brookline-wide benefits that will result from implementing this IT strategic plan

- Enhanced services to the community
- Innovation and leadership for Brookline's IT future
- Improved productivity through investments in key applications
- A solid foundation for e-Government enhancement efforts
- Improved IT decision-making with an enterprise view
- Increased staff satisfaction with IT service

APPENDIX A



list of participants

Town and School of Brookline
Information Technology Strategic Plan
January 23, 2002

PTI
Pacific Technologies, Inc.

Appendix A:
List of Participants

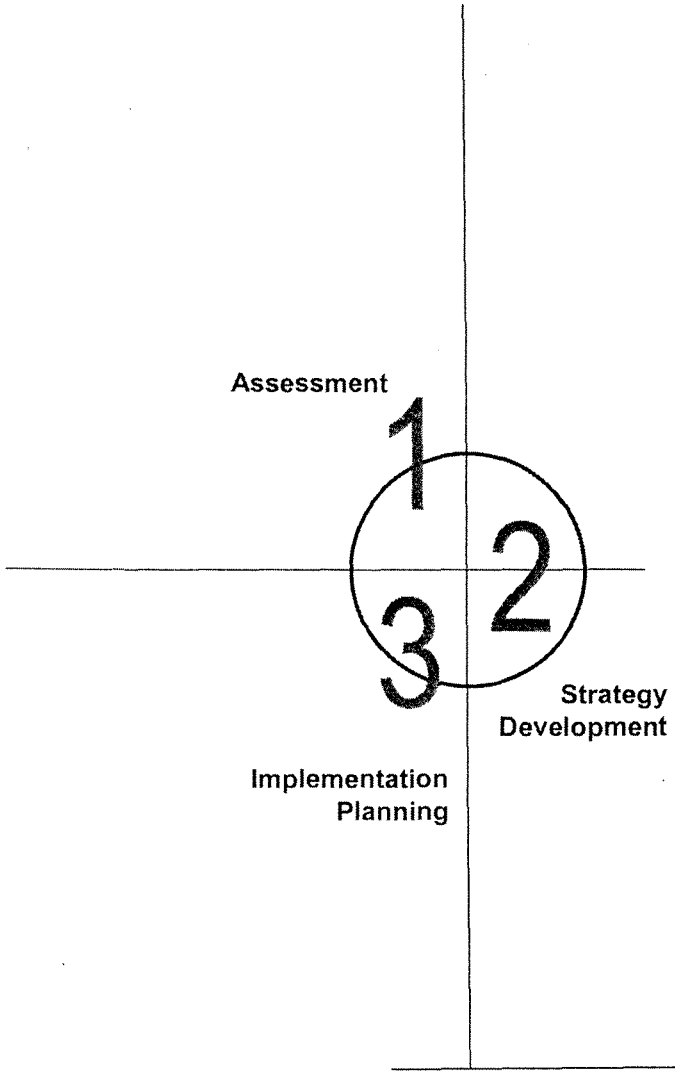
Name	Title	Department
Assefa, Zeray	Network Manager	School IS
Ayati, Priscilla	Senior Clerk Typist	Town Clerk
Baker, Debbie	Business Manager	Water & Sewer
Balsam, Alan	Director	Health
Battite, Melissa	Recreation Supervisor	Recreation
Beth, Harvey	Director of Finance	Town
Barrasso, Steve	Asst. Headmaster	School (High School)
Brady, Tom	Conservation Administrator	Public Works (Conservation)
Bressler, Steve	Director	Human Relations-Youth Resources
Cedrone, AnnMarie	Head Clerk	Selectmen
Chernin, Philip	Citizen	
Cirillo, Stephen	Deputy Town Administrator	Town Administrator
Cohen, Geoff	Citizen	ITAC
Condon, Tom	Civil Engineer V	Public Works (Engineering)
Corbett, Millie	Head Clerk	Recreation
Costello, Brenda	Senior Clerk Secretary	Selectmen
Coulon, John	Sanitarian	Health
Cronin, Sean	Asst. Town Administrator	Town Administrator
Davies, Fred	Fleet Manager	Public Works (Highway)
DeAngelis, Frank	Building Inspector	Building
DeFazio, Dana	Facility Clerk	Recreation
Dennis Bradbury	Senior Accountant	Comptroller
Dobek, Ruthann	Staff and Volunteer Coordinator	Council on Aging
Dunlap, John	Director	Town HR
Dupre, Jacqueline	Police Officer	Police
Durr, Mary	Network Communications Specialist	School IS
Egan-James, Mary	Library Asst IV	Library
Farley, Florence A.	Curriculum Coordinator	School
Fitzgerald, Virgie	Accountant I	Comptroller
Flaherty, Chuck	Director	Library
Flaherty, Michelle	Senior Paralegal/Secretary	Town Counsel
Flanagan, Kathleen	Head Clerk	Police

Name	Title	Department
Fontaine, Karen	PC Technician	Town IT
Fonte, Andrea	PC/Telecommunications Manager	Town IT
Friar, Betty	Office Manager	Fire
Geanakakis, David	Director	Purchasing
Geller, Joseph	Selectman	Board of Selectmen
Gildart, Deb	Senior Programmer Analyst	Town IT
Girard, Justin	Environmental Health Supervisor	Public Works (Highway) and Health
Glendon, Christine	Camp Director	Recreation
Golburgh, Linda	Asst. Town Clerk	Town Clerk
Gordon, Bettina	Lab Specialist	School (Foreign Language)
Gregoire, John	Citizen	
Haupin, Judy	Comptroller	Comptroller
Hickey, Linda	Senior Clerk Secretary	Planning and Community Development
Horblit, Lynda	Principal Stenographer	School (Asst. Head Master's Office)
Jenkins, Joyce	Data Controller	Town IT
Jennings, Eileen	Principal Stenographer	School (Lincoln School Secretary)
Johnson, Chris	Citizen	
Johnson, Constance	Senior Clerk Secretary	Building
Junicke, Dale	Senior Programmer Analyst	Town IT
Kelliher, Richard	Town Administrator	Town Administrator
Kelly, Gerry	Recreation Leader	Recreation
Kincaid, Randall	Deputy Chief Assessor	Assessor
King, Karen	Mgr. Desktop Svcs	School IS
Kossari, Parvaneh	GIS Programmer Analyst	Town IT
Kula, David	Citizen	ITAC
Lavelle, Peter	Teacher - Instructional Technology Specialist	School (Pierce School)
Lavoie, Jan	Asst. Comptroller	Comptroller
Locke, Sharon	Pool Manager	Recreation
Lojek, John	Building Inspector	Building
Lynch, Bob	Director	Recreation

Appendix A:
List of Participants

Name	Title	Department
Lynch, Maureen		School IS
Mahr, Cindy	Budget Analyst	School
Maloney, Pat	Chief Sanitarian	Health
Manglicmot, Cesar	Ed. Tech Specialist	School (Tech Center)
Manouk, Debbie	Finance/Systems Analyst	Public Works
Marques, Carol	Senior Clerk Typist	Building
Mauro, Joe	Curriculum Coord.	School (High School)
McManus, Tom	Citizen	
Moody, George	Chief Assessor	Assessor
Nickerson, Jim	Director	Building
Noble, Leslea	Sr. HR Specialist	Town HR
Norling, Pat	Principal Clerk	Health
O'Brien, Linda	Sr Account/Audit Clerk	Comptroller
O'Leary, Daniel	Police Chief	Police
Paliborski, Maurice	Imaging Intern	Comptroller
Pappastergion, Andy	Deputy Commissioner / Director of W &S	Public Works
Peck, Michael	Director of Food Services	School
Pianka, Jamie	Operations Manager	Public Works (Highway)
Picardo, Susan	Mgr Desktop Apps	School IS
Polga, Kay	Curriculum Coordinator	School
Quinn, Michael	Operations Manager	Public Works (Parks & Open Space)
Reed, Anne	Librarian III	Library
Robinson, Diane	Recreation Leader	Recreation
Ross, A Joseph	Town Meeting Member	Town Meeting Member Assoc.
Rowe, Peter	Asst Supt for Admin & Fin	School
Ryan, Chris	Assistant Planning Director	Planning and Community Development
Saia, John	Network Spec.	School IS
Saville, Rick	Buyer	Purchasing
Shaughnessy, Joanne	Application Support Specialist	School IS
Silverman, Richard	Superintendent	School
Simkowski, Barbara	Assistant Director	Brookline Adult Education
Slattery, Mary	Head Cashier	Treasury
Smith, Jim	Principal	School (Lawrence School)
Snodgrass, Jon	Director	Town IT
Spillane, John	Fire Chief	Fire
Summergrad, David	Principal	School (Runkle School)
Trainor, Phil	Operations Manager	Water & Sewer
Vivante, Ben	Webmaster	Town IT
Ward, Pat	Town Clerk	Town Clerk
Wasylyshyn, Adam	Director of IS	School IS
Wilder, Scott	Police Officer / Director of Technology	Police
Wofsey, Michael	IT Specialist	Library
Wong, Allen	Technical Support Specialist	School IS
Yang, Feng	GIS Manager	Town IT
Yee, Mike	Technical Support Specialist	School IS

APPENDIX B



project descriptions

Town and School of Brookline
Information Technology Strategic Plan
January 23, 2002

PTI
Pacific Technologies, Inc.

This appendix presents descriptions of the strategic projects PTI and Brookline identified over the course of this engagement. PTI developed the cost estimates based on market research as well as our experience with other clients. The projects are:

- **Management Projects:** Create the necessary organizational structures and establish IT direction, policies, and procedures
  - M1 – Implement IT organizational recommendations
  - M2 – Implement IT decision-making process
  - M3 – Perform GIS needs re-assessment and system evaluation
  - M4 – Develop and implement IT policies and procedures
  - M5 – Develop delivery and coordination framework for IT training
  - M6 – Establish an IT help desk
  - M7 – Develop a plan for integrating Instructional Technology into curriculum
  - M8 – Establish and fund life-cycle replacement for IT assets
  - M9 – Conduct annual review and update of IT strategic plan
- **Application Projects:** Address specific software support of management and operational business functions
  - A1 – Implement human resource system
  - A2 – Implement a maintenance management system
  - A3 – Establish a management reporting platform and develop key reports
  - A4 – Extend MUNIS functionality to all departments
  - A5 – Complete implementation of Permits Plus
  - A6 – Deploy Pentamation to teachers and community
  - A7 – Implement Internet priorities
  - A8 – Implement intranet priorities
  - A9 – Upgrade classroom applications
  - A10 – Replace/upgrade document management system
- **Technology Infrastructure Projects:** Put in place the hardware, system software, database, and network components necessary to support the plan's application architecture and Brookline's business objectives
  - T1 – Establish a data center
  - T2 – Upgrade WAN/LAN in schools
  - T3 – Implement an enterprise database
  - T4 – Migrate school administrative staff to PC platform
  - T5 – Upgrade classroom computing platform

MANAGEMENT PROJECTS

M1 – Implement organizational recommendations

Maximum One Time Costs:	$15,000	Project Start:	3rd Qtr 2002
Annual/Recurring Costs:	$315,000	Project Duration:	9 months

Key business drivers:
Town, School, and several departments have IT support staff, leading to duplicate services and limiting enterprise IT vision. Community expectations for IT-driven service improvements and Brookline-wide IT leadership require an enterprise IT organization.

Recommended Project:
This project creates a central IT services department, headed by a CIO at the senior department head level, to provide leadership, management, and planning. It divides the IT department into three groups – Operations, Applications, and Customer Services. Staff additions include a Customer Services Supervisor and a network support position.

The consolidation of operations staff from the schools will provide central support for all of Brookline's IT infrastructure. The Customer Services team provides a single point of contact for help desk and training. Applications staff focus on improved support of cross-departmental and enterprise applications.

Includes development of a Memorandum of Understanding between Town and School to define shared funding, management, and support

Benefits Include:

- Establishes and formalizes IT leadership
- Promotes Brookline-wide view of IT
- Increases IT service delivery efficiency and effectiveness
- Improves the flow of information through better cross-departmental and enterprise application support

Cost Assumptions:
Base salary for: CIO - $92,000; Customer Services Supervisor - $62,000; Network support specialist - $56,000. Benefits are included in total cost estimates, but excluded from "net currently planned for funding" estimates.

A one-time cost of $15,000 is estimated for contract services to assist in CIO recruitment (screen resumes, conduct interviews) and development of a Memorandum of Understanding between Town and School administration of the IT organization. The low-end cost of $0 assumes internal staff performs this work.

Recurring costs are for FY2007 and assume 3% annual cost-of-living increases plus step increases appropriate to the projected staff grades.

M2 – Implement IT decision-making process			
Maximum One Time Costs:	$20,000	Project Start:	1st Qtr 2003
Annual/Recurring Costs:	N/A	Project Duration:	9 months

Key business drivers:
The Town and School, while coordinating underlying technology standards, have to a large degree set their IT investment priorities independently from each other. As Brookline transitions to enterprise IT services, future IT decisions will require an enterprise perspective.

Recommended Project:
This project details the Brookline-wide IT decision-making process as outlined in the strategy portion of this plan. Aspects covered include roles and responsibilities of new participants in the process, guidelines for project descriptions and cost/benefit analysis, and alignment with the overall CIP process.

Benefits Include:

- IT decisions have an enterprise-wide view, with greater departmental involvement
- Improved integration between applications for current and future systems
- Better coordination of the planning and review effort

Cost Assumptions:
The maximum one-time cost of $20,000 assumes that the Brookline hires a consultant to assist them in development of tools to support the IT decision-making process and to provide facilitation support. The low-end cost of $0 assumes internal staff develops these tools. No recurring costs are associated with this project.

M3 – Perform GIS needs re-assessment and system evaluation			
Maximum One Time Costs:	$40,000	Project Start:	4th Qtr 2002
Annual/Recurring Costs:	N/A	Project Duration:	3 months

Key business drivers:
Changes in GIS technologies require a re-assessment of Brookline's GIS systems configuration to assure optimal performance. Additionally, user needs for GIS services will expand as the Town and School shift to an enterprise view of IT.

Recommended Project:
This project examines the GIS systems to determine the appropriate technologies and configurations that should be implemented as part of the planned GIS life-cycle replacement. It also identifies and prioritizes user needs for GIS services to ensure that current and new GIS applications address the areas of greatest benefit to Brookline.

Benefits Include:

- Improves GIS system performance
- Allows Brookline staff to perform their jobs more efficiently and accurately
- Focuses GIS application development efforts on areas of greatest need

Cost Assumptions:
Cost estimates of $15,000 to $40,000 assume that some outside consulting expertise will be required, and are based on experience with other GIS studies of this nature. No recurring costs are associated with this project.

M4 – Develop and implement IT policies and procedures			
Maximum One-Time Costs:	$30,000	Project Start:	2nd Qtr. 2003
Annual/Recurring Costs:	N/A	Project Duration:	6 months

Key business drivers:
As Brookline moves toward an enterprise IT service delivery model, it will need to develop and document standard policies and procedures for all levels of day-to-day operations and support. There will be a corresponding need to develop and communicate certain IT policies and procedures to the user community.

Recommended Project:
This project develops and implements Brookline-wide IT standards, policies, and procedures. Internal policies detail the service delivery approach for overall IT, Customer Service, Applications, and Operations. External IT policies will guide customers in the use of email and the Internet, communicating with the help desk, moves/adds/changes, personal software, etc.

Benefits Include:

- Provides consistent and clearly defined services to the Town and School
- Enhances confidence in IT's abilities to provide services
- Enhances communication between IT and departments

Cost Assumptions:
The maximum one-time cost of $30,000 assumes that the Brookline hires a consultant to assist them in development of standards, policies, and procedures. The low-end cost of $0 assumes internal staff performs this work. No recurring costs are associated with this project.

M5 – Develop delivery and coordination framework for IT training

Maximum One-Time Costs:	$45,000	Project Start:	3rd Qtr 2003
Annual/Recurring Costs:	N/A	Project Duration:	6 months

Key business drivers:
Although Brookline provides on-site and off-site training to users for personal productivity and business-specific applications, staff has expressed the need for additional and on-going training. No framework is in place to ensure that all staff receive basic and department-specific IT training – a key to efficiency and productivity.

Recommended Project:
This project develops a Town-wide IT training plan to improve and maintain employee proficiency with the Town's core business applications (MUNIS, Permits Plus, Pentamation, etc.) and personal productivity tools (e.g., Word, Excel, Access, Email, etc.). The training program will expand as new applications are implemented (e.g. HR, Maintenance Management, Management Reporting, etc.).

Establishing the training framework will consist of identifying training locations, courses, and qualified instructors; development of the method for scheduling courses; signing up employees for training; and tracking the completion of courses.

Benefits Include:

- Enhanced ability of employees to use their enterprise and departmental applications
- Improved productivity allowing staff to provide better service to their customers
- Fewer help desk calls, allowing IT staff to focus on more difficult technical problems
- Enhanced IT support staff skill sets

Cost Assumptions:
The high-end cost estimate of $45,000 assumes the Brookline obtains consulting assistance to develop training curriculum. The low-end cost of $0 assumes internal staff performs this work. The recurring cost should be re-examined following the development of the training program to identify costs to contract instructors and acquire training software.

M6 –Establish an IT help desk			
Maximum One Time Costs:	$32,000	Project Start:	2nd Qtr. 2003
Annual/Recurring Costs:	$5,000	Project Duration:	6 months

Key business drivers:
Currently users have no single point of contact for assistance with IT problems. As Brookline transitions to enterprise IT support services, a key component will be establishing an enterprise help desk to quickly and efficiently handle support requests.

Recommendations:
This project implements a centralized help desk and related help desk software that captures customer call information, tracks "open" service requests, prompts problem escalation and follow-up, supports web based submission and tracking of problems, allows remote access to users' computers for problem resolution and software distribution, and provides a knowledge base for problem resolution. The project also includes training for help desk staff.

In addition, the scope of services to Town departments should be re-evaluated on an annual basis to identify opportunities to provide services to additional departments.

Benefits Include:

- Improved service to IT customers
- Prioritization of IT service requests ensuring that highest priority calls are addressed first
- Reduced backlog and faster resolution for problems
- Ability to analyze problems and address recurring issues
- Ability to monitor service request trends

Cost Assumptions:
The high-end cost of $32,000 assumes the purchase of help desk software that includes web submission and tracking, remote software distribution, and remote desktop audit, along with implementation and associated training. This cost also includes $15,000 to hire a consultant to assist in implementation. The low-end cost of $17,000 assumes the purchase of basic help desk software and implementation by internal staff. The recurring cost of $5,000 is for the maintenance contract on the high-end software.

M7 – Develop a plan for integrating Instructional Technology into curriculum			
Maximum One Time Costs:	$150,000	Project Start:	4th Qtr. 2002
Annual/Recurring Cost:	N/A	Project Duration:	27 months

Key business drivers:
While assessment of the hardware and applications that support curriculum delivery is out of scope for this study, PTI did identify a significant gap in satisfaction among teachers who need to use these tools for instruction. A comprehensive plan – similar to this plan, but focused on strategy for Instructional Technology – will support appropriate and consistent delivery of technology-enhanced curriculum to all grade levels.

Recommended Project:
This project develops a strategic Instructional Technology plan for the schools. The study should identify weaknesses and gaps with the existing program, develop recommendations and guidelines for efficient delivery, and a timeline and associated budget to implement this plan. The plan will also drive project A9 to identify and recommend grade appropriate technology application software, and project T5 to identify the type and number of desktops per student to support access to instructional materials.

Benefits Include:

- Enhances student learning
- Improves teacher satisfaction with support and availability of technology curriculum tools
- Improves parental satisfaction with the quality of school instruction

Cost Assumptions:
The $150,000 estimate assumes hiring a consulting firm to evaluate Instructional Technology needs and develop a recommended strategy, an implementation plan, and associated project costs. There are no recurring costs, although projects A9 and T5 may require funding based on the plan's recommendations.